

ABSTRACT OF THE DISCLOSURE

Motor-driven compressor-alternator unit including pistons. Each piston has a large diameter portion and a smaller diameter portion extending from the large diameter portion. The large diameter portion slides within a first cylinder and provides a motor function. The smaller diameter portion slides within a second cylinder and provides a compressor function. An arrangement at least one of inactivates the motor function during compressor operation, inactivates the compressor function during motor operation, and activates ambient heat recovery during motor operation. This Abstract is not intended to define the invention disclosed in the specification, nor intended to limit the scope of the invention in any way.